per close on emergency preparedness & response

A monthly insert on special topics at Lawrence Livermore National Laboratory. This month: emergency preparedness & reponse.

May 2003

Focus On Emergency Response



- Den Fisher

September 11 taught us to prepare for the unexpected

t is essential that all of us see the upcoming emergency exercise in the context of emergency preparedness in the post-September 11 era.

While an exercise may lack the intensity and emotional impact of a real emergency, it does serve as a valuable test of emergency response systems and our basic instincts in using the processes and resources we have carefully put in place. Annual exercises have allowed the Laboratory to develop an emergency response plan built on years of experience here and elsewhere. To borrow an adage from sports: "You play as you practice."

The better prepared we are to respond to a wide range of threats, the more lives will be saved and injuries prevented in the event of a real emergency, however unlikely. This has to be a team effort and we are all players. The May exercise will give us yet another opportunity to test and improve our emergency response posture.

The Laboratory has always considered emergency preparedness and response a critical element of its operational capabilities.

We have our own fire department, for example, with a staff specially trained to deal with the kinds of workplace hazards existing here. We have a system of Laboratory Emergency Duty Officers that utilizes very experienced Lab professionals — who serve as extensions of the Director's Office — to manage emergencies. And the Laboratory has placed ever-increasing emphasis on emergency planning and preparedness, resulting in an emergency management organization dedicated to anticipating and preparing for the worst-case scenarios.

Fortunately, emergency situations at

FOCUS, See page 4

Getting 'Up Close' with science

Editor's note: This Up Close edition is a focus on emergency preparedness and response at LLNL. It provides employees with a handy and concise guide to preparing for emergencies, including an overview of Lab organizations involved in emergency preparedness, a self-help guide and contact information.

Up Close is a series spotlighting Laboratory programs and people. ◆

Preparing for emergencies

afe operation is one of the most important goals at the Laboratory. Lab accident prevention programs and the care taken by employees have permitted the Lab to sustain a good safety record, among the best in industry.

But despite the rarity of emergencies at the Lab, it is vital to be prepared to handle any emergency should it arise. Preventing accidents and being prepared for emergencies are part of the Lab's commitment to being a responsible neighbor and employer.

The Lab adheres to stringent requirements set by NNSA and DOE to ensure emergency preparedness and rapid response. These include requirements

emergencies



Jacqueline McBride/Newsline

Juan Perez (left) and Mike Hamilton, firefighters with the Fire Department's Special Services Unit, practice responding to a hazardous materials spill.

gency response facilities and equipment • Train on emer-

Pre-establish emer-

 Train on emergency roles and responsibilities

 Communicate with the public and press in an emergency For most Laboratory employees, emergency planning and preparedness is apparent only when the Lab conducts periodic emergency exercises. But behind the scenes there is ongoing planning and training by Lab organizations and local government authorities to ensure the safety of people and protection of property and the environment should any emergency occur at LLNL.

What follows is a summary of the Lab's emergency preparedness and response organization.

OVERVIEW, See page 2

Annual exercise will test Lab readiness

uring the week of May 19 an emergency will occur at the Laboratory. It will be large enough to warrant calling out all of the Lab's emergency response organizations, as well as the activation of the LLNL Emergency Operations Center.

Assess Laboratory hazards for potential

Most Lab employees will not notice a thing, though. They'll blithely go about their business unconcerned because the emergency will not be real, but simulated, the virtual trigger for the Lab's annual emergency exercise.

Not simulated, for the most part, will be the actions of the emergency response teams who will deal with the emergency. Each year, the Lab's emergency response organizations are tested in emergency scenarios that might have dangerous chemicals spilled, radiation accidentally released or

security breached. It's an opportunity for responders to put into practice their training to protect



Jacqueline McBride/Newsline

Lab firefighters Rob Verdie (left),

gency medical assistance.

Ed Bidmead and Steve Walker (rear)

exercise their ability to deliver emer-

employees and the public, and minimize damage to facilities and the environment.

"It's readiness assurance," says Steve Stoll of Hazard Control's Emergency Preparedness Section. "The concept is that when the bell rings, you can feel comfortable that you have the people and facilities in place to handle whatever comes your way. The only way to do this is to drill and exercise."

The exercises are planned and carried out by a committee of representatives from each of the Lab's emergency response organizations. Exercise scenarios are based on credible postulated events for the site. The exact date and time of the exercise is kept confidential to help ensure realism in

OVERVIEW

Continued from Insert, Page 1

Emergency Preparedness

The Hazards Control Department's **Emergency Preparedness Section has** responsibility for overseeing the Lab's Emergency Preparedness program.

Emergency Response Fire Department

The Lab's Fire Department (part of the Hazards Control Department and staffed by 42 uniformed firefighters /emergency medical technicians/paramedics) maintains 24-hour fire stations at the main Lab site and at Site 300. It provides emergency responders for fires, medical emergencies, hazardous materials spills and other incidents.

Safeguards & Security
The Safeguards and Security Department's Protective Force Division (with 189 protective service officers) provides 24-hour security protection.

The Fire and Security emergency responders operate under the Incident Command System, which is also utilized by local agencies that may be called upon, under mutual aid agreements, to assist Lab responders.

Laboratory Emergency Duty Officer
The Laboratory also maintains a 24hour Laboratory Emergency Duty Officer (LEDO), who is appointed by the Laboratory director and authorized to activate the Laboratory's Emergency Management Team and Emergency Operations Center (EOC) in Bldg. 490 to deal with emergencies. (See sidebar on the LEDO system, this page.)

Emergency Response Organziation

The Emergency Response Organiza-tion assembles and becomes operational when the LEDO directs activation of the EOC in response to an operational emergency. The principal components of the

- Emergency Response Organization are:

 The Emergency Management
 Team, operating in the Emergency Operations Construct The Const ations Center. The team consists of: the on-duty LEDO, designated the emergency director; a LEDO who is designated the response manager; senior representatives from Environmental Protection, Hazards Control, Plant Engineering, Public Affairs and Safeguards and Security; and a representative from the NNSA Laboratory Site Office.
- Professional staff operating from six separate Operations Support Centers around the main LLNL site: Environmental Protection, Hazards Control, Health Services, Plant Engineering, Public Affairs, and Safeguards and Security.
- Staff at the Site 300 EOC, who direct activities at Site 300 for local emergencies or in support of the main site.
- Emergency Operations Center staff who provide support to the Emergency Management Team.

What follows is a breakdown of the various emergency organizations, along with contact information.

Emergency Preparedness Section (Hazards Control Department)

The Emergency Preparedness Section carries out the Lab's Emergency Preparedness Program, including:

- Maintain the Lab Emergency Plan describing emergency management policies and planning elements.
- Develop and maintain Emergency Plan Implementing Procedures.
- Document the emergency response orga-
- nization (ERO) as defined by DOE Orders. Train and drill the ERO.
- Evaluate emergency preparedness through exercises.
- Coordinate and document emergency management policy meetings. Contact: Ike Eichhorn (925-422-2881, eichhorn2@llnl.gov)

Fire Department (Hazards Control Department)

The Fire Department provides personnel and equipment for firefighting, search and rescue, hazardous material and emergency medical responses.

The department:

 Maintains professional fire stations at the Livermore site and Site 300 that are staffed twenty-four hours a day through

OVERVIEW, See page 3

Emergency response for employees

n the event of an emergency at the Laboratory, personnel at one or more locations may be required to take protective actions, such as evacuation of a workplace or "sheltering in place."

The order to take protective action would be issued by the person in immediate charge of the response to the emergency — the incident commander — using the Lab's public address system. Several factors influence the incident commander's decision to shelter or evacuate, such as weather conditions and the type, location and concentration of hazardous material released by the emergency.

Most employees are familiar with the protective action order "Evacuate to your Assembly Point." This has been practiced in a number of evacuation drills at the Lab. If you are instructed to evacuate, evacuate to your facility's Assembly Point unless directed elsewhere by onscene emergency responders.

Less familiar may be the direction to "Shelter in place." Sheltering in place calls for people to stay indoors (or go indoors), close all doors and windows, and listen for further information. During a shelter-in-place condition, it is recommended that facilities post monitors at exit doors to remind employees not to leave their buildings. This protective action is based on research that shows the majority of harmful airborne material released during an emergency will pass over structures in a relatively short time without moving inside of them.

Later this month, the Lab will conduct its annual integrated



Jacqueline McBride/Newsline

Firefighters John Hall (left), Rob Verdie and Capt. Gordon Dakin are members of the Lab's 42-person Fire Department, providing firefighting, search-and-rescue, hazardous material and emergency medical services.

emergency preparedness exercise. This is designed to demonstrate the ability of the Laboratory's emergency response organizations to react to an on-site emergency.

Please note that if, during the exercise, you are in a location where a protective action order is given — either over the public address system or by emergency responders — you are considered to be a participant in the exercise and your performance

will be observed and graded by designated exercise evaluators. Therefore, please follow all directions as though you were responding to a real emergency. Your cooperation is essential to making this important test of the Lab's emergency response capabilities a success.

For more information on protective actions, contact Sue Broadway (4-3759) of the Emergency Preparedness Section.

What to do in case of an emergency

Remember, if you hear the evacuate announcement:

- Go to your facility's Assembly Point unless directed elsewhere by the announcement or by on-scene emergency responders. If you hear the "shelter-in-place" announcement:
 - Shelter Stay inside your building or go into the nearest building.
 - Shut Close doors and windows.
- Listen Listen for further instructions over the public address system or Laboratory Emergency Radio, 1610 AM. Avoid using the telephone unless you have a life-threatening emergency.

LEDOs bring experience to emergency response

n an emergency, the Laboratory emergency duty officer (LEDO) on call directs the activities of the Lab's Emergency Management Team in responding to the situation. The LEDO is authorized by the Laboratory director to take all necessary actions to ensure the safety and security of the public, Laboratory personnel and facilities, and the protection of the environment.

Only the LEDO can activate the Emergency Management Team and the Emergency Operations Center (EOC), located in Bldg. 490. Once the EOC has been activated, the LEDO becomes the emergency director, managing the team and EOC.

Laboratory Emergency Duty Officers

Mark Strauch (Lead) Rex Beach George Campbell **Alan Casamajor David Conrad Becky Failor** Larry Ferderber **Scott McAllister** Ellen Raber **Greg Suski Hugh Watling**

The emergency director ensures that all available resources are provided to the incident commander in the

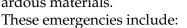
field who's working to defuse the emergency. The emergency director provides institutional oversight to the response, and keeps senior Lab management informed of emergency status.

The emergency director is the single Lab emergency point of contact to the National Nuclear Security Agency, the Department of Energy, and other federal, state and local authorities.

LEDOs are appointed by the director. There are currently 11 LEDOs, chosen for their knowledge of Lab operations and programmatic activities, as well as their ability to manage crisis situations. Mark Strauch serves as the lead LEDO.

Emergencies come in many forms

perational Emergencies at the Lab are significant events or conditions that pose a potential or actual threat to safety. They may require urgent response from outside the immediate area of the incident. Such emergencies are caused by, involve or affect Lab facilities or activities and may involve degradation of personnel health and safety, the environment, security and safeguards, or the release or loss of control of hazardous materials.



- Radiation release/criticality — release of radioactive material or radiation event leading to potential for personnel exposure and/or loss of material control, and requiring emergency response personnel for treatment or mitigation.
- Hazardous chemical release — unspecified release of chemicals leading to potential for personnel exposure and/or loss of material control, and requiring emergency response personnel for treatment or mitigation.
- Biological material exposure — unspecified release of biological materials leading to potential for personnel exposure and/or loss of material control, and requiring emergency



Safeguards & Security

Lab Protective Force officers train to protect Lab personnel and property.

response personnel for treatment or mitigation.

- High-explosive detonation — personnel injury or release of hazardous materials requiring emergency response personnel for treatment or mitigation.
- Malevolent acts (sabotage, armed assault) — personnel injury and/or loss of material response personnel for treatment or mitigation.
- Structure fire building and contents involved in fire requiring response of the Fire Department to control and extinguish the fire.
- Natural phenomena (earthquake, flooding, wind) — personnel injury and/or hazardous materials released requiring emergency response personnel

for treatment or mitigation.

Operational Emergencies involving hazardous materials are classified as an alert, site area emergency or general emergency.

Alert

An alert is the lowest level of emergency classification. It is declared when an event has occurred that has reduced facility safety systems. However, the potential effects of the event are not expected to be serious and there is no threat to the public or the environment.

Site area emergency

A site area emergency is declared when facility safety systems, which are designed to protect employees, the public and the environment, are either damaged or inoperable. Release of hazardous materials may exceed health and safety standards on site. However, any release of hazardous materials is not expected to exceed public health and safety standards off site.

General emergency

A general emergency is declared when a significant reduction of facility safety systems has occurred and may result in the release of large quantities of hazardous material. The release of hazardous materials, either toxic or radiological, could travel off the Laboratory site and exceed public health and safety standards.

control requiring emergency

Emergency preparedness is a community effort

xtending the Lab's commitment to emergency preparedness beyond the fenceline, LLNL emergency planners are working with local community agencies in preparing an emergency public education campaign for the Tri-Valley.

The Lab and the cities of Livermore, Pleasanton and Dublin, and the Alameda County Office of Emergency Services, are developing a program to educate the public on how to deal with emergencies. The program will include

information on how citizens would be alerted to emergencies, how local response agencies would protect residents and what people can do to protect themselves.

"We already work hand-inhand with local cities and the county in emergency response



Lab fire personnel such as Rob Verdie (left), Steve Walker and Ed Bidmead are available to assist outside emergency response agencies through mutual aid agreements with the Laboratory.

through mutual aid, so it's a good fit for the Lab to help with communicating practical emergency information to local residents," said Randy Bradley, chief of the Lab Fire Department.

The Lab and its outside partners are in the process of assem-

bling the emergency information into final form and selecting methods for its distribution to the public. Vehicles for getting the information broadly circulated may include brochures, refrigerator magnets, Websites, TV spots and newspaper articles or advertisements.

Valley residents and businesses will receive the emergency information in the mail annually, with the first mailings planned to go

out later this year.

The emergency information will also be made available through various Laboratory publications and events, such as the Lab's Website, the LLNL Community Newsletter, Newsline and Lab booths at community events. •

OVERVIEW

Continued from Insert, Page 2

a roster of 42 firefighters.

- Maintains personnel trained and certified as emergency medical technicians by Alameda County and the State of California, and State of California-licensed and Alameda County-certified paramedics.
- Is a signatory to mutual aid agreements with various outside fire services.
- Is the primary point of contact with offsite agencies for emergency planning, preparedness and response, including pro-viding fire dispatch and coordinating mutual aid response for the county.

Contact: Sue Broadway (4-3759, broadway2@llnl.gov) Fire Department (925-422-5194) Emergency: 911

Safeguards & Security Department

The Safeguards and Security Department provides physical safety and security for Lab facilities and employees, including:

- Provide access control. Provide other emergency responders with security, traffic control and access into restricted areas
 - Assist in area evacuation.
- Develop protection and emergency response plans.

Contact: Randy Tindell (925-422-6997, tindell2@llnl.gov)

Laboratory Emergency Duty Officer

The Laboratory maintains a roster of eleven LEDOs, on-call 24 hours a day. The LEDO is appointed by the Laboratory director and authorized to act as the Laboratory's emergency director during an emergency. (See sidebar story on the LEDO system, page 2.)

Contact: John Clatworthy (925-422-0442,

clatworthy1@llnl.gov)

Environmental Protection Department

The Environmental Protection Department is responsible for protecting the environment through prevention of environmental contamination and:

- Identifing the character, exact source, amount and extent of material released to the environment.
 - Implementing preventive measures Determining impact of environmen-
- tal contamination.
 - Cleaning up contamination.
- Determining reporting requirements to regulatory agencies and DOE
- · Resolving environmental and regulatory issues within the Emergency Response Organization.

Contact: Sav Mancieri (2-6920, mancieri1@llnl.gov)

Hazards Control Department

The Hazards Control Department has overall responsibility for the initial response and control of any emergency situation involving health and safety (e.g., fire, hazardous material spill and personnel injury) at LLNL. Its staff includes firefighters/paramedics, industrial hygienists, health physicists and health & safety technicians. Responsibilites include:

- Through its Emergency Management Division (Fire Department), responding to all LLNL emergencies except security emergencies.
- Through its Environment, Safety & Health Teams, providing technical support and consultation to the Fire Department iuring emergencies. This may includ technical expertise, department resources and references, computer projections, maps and other means. Field monitoring teams may be deployed to assess the extent to which hazardous materials have been released.
- Through its Emergency Preparedness Section, develop and maintain the Laboratory's Institutional Level Emergency Plan and the implementing procedures for the plan, provide training and drills for the Emegency Response Organization and evaluate overall emergency preparedness at LLNL through exercises.
- Conduct independent accident and incident evaluations and assist program/facility management in formal incident analyses.

ES&H Teams Division Office (925-424-4175); John Richards (3-9138, richards6@llnl.gov)

Plant Engineering Department

Plant Engineering is responsible for supporting the Laboratory's utilities, facili-

OVERVIEW, See page 4

OVERVIEW

Continued from Insert, Page 3

ties, and other site-wide infrastructure. In an emergency, Plant Engineering may:

- Provide specialized staff and equipment to support emergency response activities, such as structural engineers, electrical technicians, heavy equipment operators and any other shop support deemed necessary by the emergency response organization.
- Provide technical expertise to emergency managers concerning site infrastruc-

Contact: Doug Pirrone (925-423-4709, pirrone1@llnl.gov)

Public Affairs Office

During an emergency, the Public Affairs Office provides emergency public information to Laboratory workers and to the community. This includes:

- Providing news media with current information on the emergency and on emergency response actions underway This is accomplished through news briefings, news releases and telephone calls.
- Communicating emergency information to Lab workers through the Lab-wide public address system, email, news media and gate notices.
- Communicating emergency information to community leaders through telephone calls.
- Responding to telephone inquiries from Lab workers, the public and news media. Contact: Gordon Yano (925-423-3117,

yano1@llnl.gov)

NNSA Livermore Site Office

The NNSA Livermore Site Office has a number of communications and oversight responsibilities during an operational emergency. These include:

- Monitoring and providing technical and management support to LLNL
- In consultation with the Emergency Director and LLNL management, assisting with and oversee technical and other issues resolution and assessments of on- and off-
- Interfacing with offsite agencies and the public, if necessary.
- Establishing and maintaining informational communication links with DOE HQ.
- Determining and coordinating additional
- DOE or other federal emergency response assets. Providing press release approval and public information direction and support, if

Contact: Patricia DeFalco (925-423-6267, patricia.difalco@oak.doe.gov)

Health Services Department

The Health Services Department provides medical care during emergency situations, including, but not limited to, natural disasters, hazardous materials incidents and radiologic emergencies. Health Services' medical emergency response applies to both major area-wide disasters, and the Lab-specific emergencies. Activities include:

- Providing Labwide emergency medical care and treatment for the ill and injured, which may include performing radiological and chemical decontamination of injured victims.
- Coordinating efforts with and providing guidance to established self-help groups across the Lab
- Transferring patients who require advanced levels of care to area hospitals or other medical facilities for definitive care.
- Contacting relatives of patients to inform them of patient status, and provide resources for psychological support through the Employee Assistance Program. Contact : Julita Luty (925-424-4517, luty1@llnl.gov)

Site 300 Emergency Operations Center

Considering Site 300's distance from the main LLNL site, it may have to operate independently in an emergency that involves both sites. Under the right scenario Site 300 could activate its Emergency Operations Center and establish reporting protocols and notifications, if appropriate, through the main LLNLEOC. Upon request, Site 300 resources could be activated in support of the Livermore site if the emergency condition only affected the Livermore site. Those resources available from Site 300 could include:

- Emergency management support (Site 300 emergency director and executive staff member), safety manager, environmental manager.
- Safety technicians, waste management technicians.
- Plant Engineering equipment and personnel.Web-EOC operator or staff other
- administrative positions.

Contact: Jim Lane (925-423-5217, lane5@llnl.gov) or Larry Sedlacek (925-422-8853, sedlacek2@llnl.gov)

EXERCISE

Continued from Page 1

responders' play.

Exercise performance is evaluated and graded. This month's exercise will be formally evaluated by a team of independent NNSA assessors comprised of nationally recognized experts in the field. They will grade the Lab in how well responders react to the emergency and in how well the exercise is run.

While most employees will be unaware that an exercise is taking place, those in the vicinity of the simulated emergency event may be impacted. The area may be cordoned off, or the nature of the emergency may dictate that some employees will be directed to shelter in place for a period of time.

"The primary driver for these exercises is the protection of employees and the public," says Joe Sefcik, the exercise director for this year's exercise. "We react in real life as we do in training, so the fidelity of the training has to be 100 percent. All employees affected by the exercise should follow direction given by emergency responders.

"We really need people affected to play along with the exercise scenario, both for the benefit of the emergency responders and for their own knowledge."

Exercises provide responders and planners the opportunity to



Bob Hirschfeld/Newsline

From left, Tina Perkins (registered nurse), Keith Sheirich (nurse practitioner) and Dr. Ronit Benabraham-Katz, of the Health Services Department are ready to provide medical care in emergency situations, including hazardous materials contamination.

demonstrate skills and validate improvements to their programs. Lessons learned and corrective actions taken as a result of previous exercises can be put into play in the next exercise.

This year's emergency scenario will focus responders on a number of response activities, including sheltering in place, off-site protective actions and establishment of a Joint Information Center for coordinating emergency information to the public through the news media.

"It's taken months of planning on the part of many people to make this exercise happen," says Sue

Broadway, chairperson of the Lab's Drill and Exercise Planning Committee. "Now it's up to employees to make it a success through their participation and cooperation."

On-site briefings scheduled

Briefings on the upcoming emergency exercise for potential exercise participants are scheduled for May 14, 1:30-2:30 p.m., and May 15, 8:30-9:30 a.m., in the Bldg. 543 auditorium. Participants need attend only one of the briefings. For further information, contact Sue Broadway, 4-3759, broadway2@IInl.gov.

FOCUS

Continued from Insert, Page 1

the Lab have been rare. Our safety record ranks with the very best in industry, and compares favorably with similar research institutions.

This is not due to luck, but to employee and management commitment to a robust integrated safety management system. Yet we still have to be ready to deal with emergencies if they happen. We have to continuously train and exercise our emergency response organizations, from Hazards Control to Safeguards & Security to Plant Engineering to Public Affairs.

The attacks of September 11, 2001 dramatically underscored the need for a planned response to the most unexpected of emergencies. Those events changed the nation's view of what it means to be prepared.

Although we here at the Lab were thousands of miles away on September 11, Laboratory emergency response organizations were called into action. While Lab management shut down normal activities for the day and sent most employees home, members of the emergency response organizations stayed on. They managed the shutdown and responded to the issues arising from the attacks back East.

The events of September 11 made real the threat of a terrorist attack. Within the Laboratory we have taken explicit steps to plan for and mitigate a terrorist attack, no matter how improbable. One very visible example of this is the ongoing project to control vehicle access to the part of East Avenue that runs in close proximity to LLNL and Sandia National Lab-CA facilities.

Of course, we in California are no strangers to natural disasters. The few actual emergencies I've

experienced at the Lab involved earthquakes. They were frightening, and affected not only the Laboratory but also employees' homes and families. One of my lasting impressions was how well employees responded. Not only those whose duties called for them to respond, but also the average Lab employee, many of whom stayed, or returned to work, to make sure everything in their area of the Lab was secure.

I'm convinced that the impressive performance of employees in these emergencies came at least in part from the confidence gained during annual emergency response exercises. These exercises build both employee and public confidence in our ability to handle any emergency.

I know that at the Lab we have both the will and the means to effectively deal with emergencies. Your support and participation in the exercise are greatly appreciated.

Contact phone numbers

Fire Department — Emergency: 911 Cell: 925-447-6880; Office: 2-5194

Safeguards & Security — Emergency: 911 Cell: 925-447-6880; Office: 3-9121

Emergency Dispatch Center (Fire Dept.) — 2-7595

Emergency Preparedness Section — 2-2881

Hazards Control Department — 2-8253 Environment, Safety & Health Teams — 4-4175 Emergency Management Training — 2-5158

Health Services Department — 2-7459

Environmental Protection Department — 2-6920

Plant Engineering Department — 2-0840

Emergency Communications Telephone Message System — 4-LLNL (4-5565)

Public Affairs Office — 2-4599

Site 300 — 2-8853

NNSA Livermore Site Office — 3-6267